FORESTRY, FIRE & STATE LANDS
REQUEST FOR PROPOSALS
Cover Sheet

Project Title	**Importance of the Great Salt Lake's Deep Brine Layer for Mercury Transfer and Nutrition of Brine Shrimp**		
Lead Project Sponsor	Utah State University		
Project Contact	Wayne Wurtsbaugh		
	Watershed Sciences Dept., UMC 5210, Utah State Univ., Logan, Utah, 84322-5210		
	Phones: 435 797-2584 (office); 435 760-7825 (cell)		
	Fax Number: 435 797-1871		
	E-Mail Address: wayne.wurtsbaugh@usu.edu		
Project Description / Abstract	As a consequence of the railway causeway dike in the Great Salt Lake, the productive surface waters of Gilbert Bay rest on an anoxic deep brine layer. Because of this artificial stratification regime, organic matter content, total mercury, and especially toxic methyl mercury, is far more concentrated in the deep brine layer than in the surface. Brine shrimp likely utilize the deep brine layer by grazing at its interface, and when turbulent mixing brings the deep water to the surface. This project will use laboratory experiments and field sampling to determine the relative importance of the two layers in the lake for: (1) transferring mercury into the brine shrimp; (2) providing nourishment for the shrimp. By addressing two hot-button topics (diking and mercury), our project will provide a much better understanding of mercury cycling and brine shrimp nutrition in the Great Salt Lake. This will help managers address issues concerning bird use of the lake, public health from eating mercury-contaminated waterfowl, and the influence of dikes on the ecosystem.		
Project Funding	Amount Requested $46,675	Matching Funds $ 0	Total Project Cost $ 46,675